PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2765/205PCT	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/US03/34239	International filing date *(day/month/year)* 29 October 2003 (29.10.2003)	Priority date *(day/month/year)* 29 October 2003 (29.10.2003)
International Patent Classification (IPC) or national classification and IPC IPC(7): A61F 5/00 and US Cl.: 602/20		
Applicant BSN MEDICAL, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 6 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
   - IV ☐ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☐ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
16 March 2005 (16.03.2005)	12 October 2005 (12.10.2005)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/ US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Henry Bennett Sharon D. Greene for Telephone No. 571-727-3700

Form PCT/IPEA/409 (cover sheet)(July 1998)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/34239

I. Basis of the report

1. With regard to the elements of the international application:*

☐ the international application as originally filed.

☒ the description:
pages 1-13 as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☒ the claims:
pages 14-19, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages 14-19, filed with the letter of 01 July 2005 (01.07.2005).

☒ the drawings:
pages 1-20, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

☐ the sequence listing part of the description:
pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of _____.

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination(under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages NONE

☐ the claims, Nos. NONE

☐ the drawings, sheets/~~fig~~ NONE

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*
*** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.*

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/US03/34239

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1-20	YES
	Claims NONE	NO
Inventive Step (IS)	Claims 6-9,14-16	YES
	Claims 1-5,10-13,17-20	NO
Industrial Applicability (IA)	Claims 1-20	YES
	Claims NONE	NO

2. CITATIONS AND EXPLANATIONS

Claims 1-5, 10-13 and 17-20 lack an inventive step under PCT Article 33(3) as being obvious over Larson et al (US5807291) in view of Grim et al. (US6186966B1).

Larson discloses a medical bandaging product (Figs. 1-5) comprising a rib-knitted fabric (see "rib-knit fabric" in line 24 of col. 14) constructed of synthetic yarns (see "synthetic... yarn" in line 25 of col. 14) selected from the group consisting of acrylic, polyester and polypropylene yarns (see "polyester" and "polypropylene" in lines 26 & 27 of col. 14, also see "acrylic" in lines 60 & 63), and wherein the medical bandaging product comprises a cast liner for being positioned over a limb to be treated and under a cast material (see "the liner" in line 22 of col. 14), wherein the rib-knitted fabric is circular-knitted (see "circular knit" in line 23 of col. 14) to define a tube (Fig. 3), with ribs extending longitudinally along the length of the tube (see "rib" in line 24 of col. 14), with ribs extending radially around the periphery of the tube (see "rib" in line 24 of col. 14), and including an elastic (see "elastically" in line 23 of col. 14)yarn incorporated into the fabric to provide elasticity to the fabric (see "yarn" in lines 25-27 of col. 14), wherein the fabric has a knit structure (see "knit fabric" in lines 23-24 of col. 14) wherein a major surface of the fabric (see "surface" in line 61 of col. 14) comprises regular courses and wales of soft deformable tufts defined by yarn loops (see "loops" in line 61 of col. 14) extending outwardly above a base of the fabric (see "on one surface only" in line 61 of col. 14). Larson lacks a water-repellant treatment applied to the cast liner.

It would not have involved an inventive step to have provided a water-repelling treatment to the cast liner of Larson, because Grim teaches that it is known for a cast liner to be waterproof (see "lining to the cast...may be waterproof" in lines 54 & 60-61 of col. 12 of Grim).

Claims 6-9 and 14-16 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest the claimed splint.

Claims 1-20 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

IPEA/US

1. A medical bandaging product, comprising a rib-knitted fabric constructed of synthetic yarns selected from the group consisting of acrylic, polyester and polypropylene yarns; and an effective amount of a water-repelling treatment applied to the fabric for imparting water-repellent characteristics to the fabric.

2. A medical bandaging product according to claim 1, wherein said rib-knitted fabric is circular-knitted to define a tube, with ribs extending longitudinally along the length of the tube.

3. A medical bandaging product according to claim 1, wherein said rib-knitted fabric is circular-knitted to define a tube, with ribs extending radially around the periphery of the tube.

4. A medical bandaging product according to claim 1, and including an elastic yarn incorporated into the fabric to provide elasticity to the fabric.

5. A medical bandaging product according to claims 1, 2 or 3, wherein said medical bandaging product comprises a cast liner for being positioned over a limb to be treated and under a cast material.

IPEA/US

6. A splint product in roll form for being dispensed in predetermined lengths suitable for a given medical use, comprising:

(a) an elongate sleeve formed of moisture-impervious material and sealable to prevent entry of moisture;

(b) an elongate medical material positioned in said sleeve and sealed therein against entry of moisture until use, said medical material comprising:

(i) a substrate;

(ii) a reactive system impregnated into or coated onto said substrate, said system remaining stable when maintained in substantially moisture-free conditions and hardening upon exposure to sufficient moisture to form a rigid, self supporting structure; and

(iii) a soft, flexible, protective tubular wrapping enclosing said substrate along its length to provide a cushioning barrier between the substrate and the skin of a patient when the material is in use, said soft, flexible protective wrapping comprising a rib-knitted fabric constructed of synthetic yarns selected from the group consisting of acrylic, polyester and polypropylene yarns; and

(c) means for resealing said sleeve against entry of moisture after a predetermined length of said bandaging product has been dispensed for use to prevent hardening of said substrate remaining in said sleeve.

7. A splint product according to claim 6, wherein said rib-knitted fabric of the protective wrapping is circular-knitted to define a tube, with ribs extending longitudinally along the length of the tube.

8. A splint product according to claim 6, wherein said rib-knitted fabric of the protective wrapping is circular-knitted to define a tube, with ribs extending radially around the periphery of the tube.

9. A splint product according to claim 8, and including an elastic yarn incorporated into the fabric to provide elasticity to the fabric.

10. A medical bandaging product, comprising a knitted fabric constructed of synthetic yarns selected from the group consisting of acrylic, polyester and polypropylene yarns, said fabric having a knit structure wherein a major surface of the fabric comprises regular courses and wales of soft, deformable tufts defined by yarn loops extending outwardly above a base of the fabric, the product including an effective amount of a water-repelling treatment applied to the fabric for imparting water-repellent characteristics to the fabric.

11. A medical bandaging product according to claim 10, and including an elastic yarn incorporated into the fabric to provide elasticity to the fabric.

12. (Canceled)

13. A medical bandaging product according to claim 10 or 11 and comprising a cast liner for being positioned over a limb to be treated and under a cast material.

14. A splint product in roll form for being dispensed in predetermined lengths suitable for a given medical use, comprising:

(a) an elongate sleeve formed of moisture-impervious material and sealable to prevent entry of moisture;

(b) an elongate medical material positioned in said sleeve and sealed therein against entry of moisture until use, said medical material comprising:

(i) a substrate;

(ii) a reactive system impregnated into or coated onto said substrate, said system remaining stable when maintained in substantially moisture-free conditions and hardening upon exposure to sufficient moisture to form a rigid, self supporting structure; and

(iii) medical bandaging product comprising a soft, flexible protective wrapping enclosing said substrate along its length to provide a cushioning barrier between the substrate and the skin of a patient when the material is in use, said soft, flexible protective wrapping comprising a rib-knitted fabric constructed of synthetic yarns selected from the group consisting of acrylic, polyester and polypropylene yarns; and

(c) means for resealing said sleeve against entry of moisture after a predetermined length of said bandaging product has been dispensed for use to prevent hardening of said substrate remaining in said sleeve.

15. A splint product according to claim 14, wherein said rib-knitted fabric of the protective wrapping is circular-knitted to define a tube, with ribs extending longitudinally along the length of the tube.

16. A splint product according to claim 14, wherein said rib-knitted fabric of the protective wrapping is circular-knitted to define a tube, with ribs extending radially around the periphery of the tube.

17. A cast liner, comprising a rib-knitted fabric constructed of synthetic yarns selected from the group consisting of acrylic, polyester and polypropylene yarns, and an effective amount of a water-repelling treatment applied to the fabric for imparting water-repellent characteristics to the fabric.

18. A medical bandaging product according to claim 17, wherein said rib-knitted fabric is circular-knitted to define a tube, with ribs extending longitudinally along the length of the tube.

19. A medical bandaging product according to claim 17, wherein said rib-knitted fabric is circular-knitted to define a tube, with ribs extending radially around the periphery of the tube.

20. A medical bandaging product according to claim 19, and including an elastic yarn incorporated into the fabric to provide elasticity to the fabric.